

REMARKS

In view of the above-amendments and the following remarks, reconsideration and further examination are requested.

Claims 27, 63, 69, 70, 72 and 95-107 have been canceled; claims 28, 29 and 31-35 have been amended; and claims 108-117 have been added.

In the Final Rejection mailed August 16, 2006, claims 27-35, 63, 69, 70, 72 and 95-107 were rejected over various combinations of Dordi et al. '853, Maloney et al., Mayer et al., Olbrich et al., Begin et al., Sato et al., Dordi et al. '960, and Rosenthal.

In order to discuss rejections given in the Final Rejection, a personal interview was conducted with Examiner Moore on November 29, 2006. The courtesies extended by Examiner Moore in conducting this interview are greatly appreciated.

During the interview, three proposed claims were discussed.

The first of these claims was claim 27 amended to require a bevel etching unit including a central fluid discharge member and a source of acid solution in fluid communication with the central fluid discharge member, and a peripheral fluid discharge member and a source of oxidizing agent solution in fluid communication with the peripheral fluid discharge member. The significance of such a bevel etching unit was explained. Specifically, with the instant invention, a peripheral edge portion of a substrate is etched by applying an acid solution to a central portion of the substrate and applying an oxidizing agent solution to the peripheral edge portion of the substrate, while rotating the substrate. That is, the acid solution travels from the central portion of the substrate to the peripheral edge portion thereof, via centrifugal force due to rotation of the substrate, and then mixes with the oxidizing agent solution at the peripheral edge portion to form an etching solution that etches away material at the peripheral edge portion.

Applicants' undersigned representative pointed out that in each of Dordi et al. '853 and Mayer et al., a peripheral edge portion is etched in a manner different than that of the instant invention. Specifically, rather than supplying components of the etching solution individually to the peripheral edge portion such that the etching solution is created at the peripheral edge portion, as with the instant invention, Dordi et al. '853 and Mayer et al. each supply a pre-

existing etching solution directly to the peripheral edge portion. Thus, though each of Dordi et al. and Mayer et al. disclose an etching unit including a central nozzle and a peripheral nozzle, the peripheral nozzle is in fluid communication with a source of an etching solution, and is not in fluid communication with a source of oxidizing agent solution as required by this first proposed claim.

Examiner Moore indicated that the first proposed claim appears to define around Dordi et al. '853 and Mayer et al. Accordingly, this proposed claim has been presented as new claim 108, and new independent claim 109 is directed to the bevel etching unit as recited in claim 108. Thus, new claims 108 and 109 are believed to be related to one another as a combination and sub-combination which are not restrictable from one another. Additionally, former claim 63 has been rewritten as new claim 114, while including the bevel etching unit as recited in claim 108.

Because neither Dordi et al. '853 nor Mayer et al., nor any of the other relied-upon references, teaches or suggests a peripheral nozzle in fluid communication with a source of oxidizing agent solution, claims 108, 109, 114 and 28-35 are allowable over these references either taken alone or in combination.

The next proposed claim discussed during the interview was a claim that basically corresponded to claim 32 rewritten in independent form. Applicants' undersigned representative explained that the invention intended to be represented by this claim is distinguished from Dordi et al. '853 in that the member to be impregnated with plating liquid as recited in claim 32 allows for a plating operation to be performed with the plating solution in a static condition, whereas in Dordi et al. '853 a plating operation is performed by continuously flowing plating solution. Examiner Moore indicated that there is no structure in claim 32, which is lacking from Dordi et al. '853, that allows for this distinction to be realized, and further indicated that peripheral seal member 2-16, as shown in Fig. 50A for example, appears to be necessary for allowing the plating operation to be performed in a manner in which the plating solution is static and not flowing. Thus, Examiner Moore expressed that if such a seal member were recited in this second proposed claim, then this claim would appear to define around Dordi et al. '853.

Accordingly, new claim 110 is provided, which basically corresponds to the second proposed claim of the interview (i.e. former claim 32 rewritten in independent form), while

including an additional limitation of “a peripheral seal member in contact with said substrate...”, and new independent claim 111 is directed to the plated metal film forming unit as recited in claim 110. Thus, new claims 110 and 111 are believed to be related to one another as a combination and sub-combination which are not restrictable from one another.

Dordi et al. ‘853 does not teach or suggest the seal member as recited in claims 110 and 111, and none of the other relied-upon references teaches or suggests a seal member that is used to maintain a plating liquid in a static condition during a plating operation. Thus, claims 110 and 111 are allowable over these references either taken alone or in combination.

The next proposed claim discussed during the interview was a claim which basically corresponded to claim 35 rewritten in independent form. The significance of this claim was explained with reference to Fig. 9, for example. Namely, substrate holding portion 2-9 is movable from position B to position C. At position B, seal member 2-16 is in contact with substrate W such that when water is applied to the substrate the water is retained on the substrate, and then when the substrate holding portion is moved away from the seal member to position C the water underflows the seal member and contacts the cathode 2-17 so as to clean the cathode.

Examiner Moore indicated that this operation appears to not be taught by the relied-upon references, but indicated that this proposed claim would nonetheless probably continue to be rejected because it fails to adequately recite the structure necessary for the operation to be performed. Accordingly, Applicants’ undersigned representative proposed to positively recite that the plated film forming unit includes both a plating liquid supply member and a water supply member. Examiner Moore indicated that the relied-upon references do not appear to teach or suggest a plated film forming unit including two such members.

Accordingly, claim 35 has been rewritten in independent form as new claim 112, while requiring that the plated film forming unit includes both a plating liquid supply member and a water supply member, and new independent claim 113 is directed to the plated metal film forming unit as recited in claim 112. Thus, new claims 112 and 113 are believed to be related to one another as a combination and sub-combination which are not restrictable from one another. Additionally, claims 69, 70 and 72 have been rewritten as new claims 115, 116 and 117, respectively, with each of these new claims being analogous to new claims 112 and 113 in that

they each require a plating device that includes both a plating liquid supply member and a water supply member.

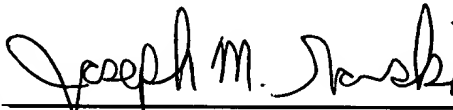
None of the relied-upon references teaches or suggests a plating device that includes both a plating liquid supply member and a water supply member. Thus, claims 112, 113, 115, 116 and 117 are also respectfully submitted to be allowable over these references.

In view of the above amendments and remarks, it is respectfully submitted that the present application is in condition for allowance and an early Notice of Allowance is earnestly solicited.

If after reviewing this Amendment, the Examiner believes that any issues remain which must be resolved before the application can be passed to issue, the Examiner is invited to contact the Applicants' undersigned representative by telephone to resolve such issues.

Respectfully submitted,

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